Illinois Commerce Commission
Initiative on Plug-In Electric Vehicles

CNT Energy and I-GO Car Sharing

Joint Supplemental Comments on Electric Vehicle Integration

August 15, 2011

I. Introduction

These comments are issued jointly by CNT Energy and I-GO Car Sharing. We greatly appreciate the opportunity to comment further on the impact and opportunity that electric vehicles (EVs) present to Illinois' electric grid, and appreciate the Commissions efforts to take proactive steps to prepare for the introduction of electric vehicles (EVs) into Illinois' electricity system.

The connection of EVs to our electric system creates an opportunity for Illinois to reshape its load profile, creating efficiencies in the use of our generation and transmission resources. In addition, new EV models that allow electricity stored in their batteries to be placed back onto the electric grid will create the large, distributed energy storage system that electrical system engineers have always dreamed of. But, this promise will only be fulfilled with smart policies that encourage EV owners to charge during low use hours and that encourage EV owners and the owners of renewable charging infrastructure to put power back on the grid when it is most needed.

II. What is the appropriate regulatory paradigm for private and public charging stations?

An appropriate regulatory paradigm for public charging stations will serve two public policy goals: it will encourage the organic development of infrastructure by allowing a diversity of business models, including renewable charging infrastructure, to flourish; and will ensure that prices are transparent to customers.

A regulatory paradigm that meets these two goals will ensure that public charging infrastructure develops to meet public demand, reduce 'range anxiety,' create opportunities for urban

dwellers without home charging stations to own EVs, and give heavy users such as fleets and car-sharing services the ability to charge easily and often. At the same time, by providing transparent price information, it will protect customers from hidden charges and fees and encourage customers to seek out the charging business model that work best for their particular needs.

CNT Energy and I-Go believe that treating private and public charging stations as a competitive service will best meet these policy goals, and agrees with both ComEd and Ameren's initial EV Initiative comments that the provision of charging stations is "related to, but not necessary for, the provision of electric power and energy or delivery service" for the reasons that the utilities cited. ComEd at 26 and 32; Ameren at 4.

To further incent infrastructure investment, the regulatory paradigm should be adopted early in the EV market's development and be made clear to potential market entrants. Regulatory uncertainty is a significant risk and barrier to charging infrastructure development, and should be minimized. Consequently, the ICC should make a proactive public statement that public and private charging infrastructure will be regulated as a competitive service.

III. To facilitate the charging of electric vehicles that provides maximum societal, environmental, and economic benefits, what modifications (if any) should be made to existing utility rates?

The roll-out of electric vehicles presents a tremendous opportunity to improve our electric system's load profile by encouraging EV owners to charge their vehicles at times when electricity demand is low.

Consequently, CNT Energy and I-Go strongly believe that widespread use of existing voluntary residential real-time pricing programs by EV owners is needed to maximize their economic benefits to EV owners and to all electric customers. In addition, we propose that new rates be developed to encourage capable EVs, and their renewable charging canopies, to discharge power back onto the grid at times when it is needed.

EVs should be encouraged to use existing residential real time pricing programs

Residential real-time prices allow customers to take advantage of the varying cost of producing electricity by charging their EVs when the demand, and cost, for electricity is low, usually at night. Encouraging this behavior will improve the overall efficiency of the electricity system's operations and save customers money. ComEd's own analysis "shows that PEV charging customers could save between 27-67% by opting for Rate BESH [ComEd's residential real time pricing rate] instead of Rate BES [ComEd's flat rate] and charging their PEVs during the nighttime hours." ComEd at 10.

Customers must, however, be informed about these rates if they are to choose them. Consequently, CNT Energy and I-Go recommend that electric providers work with auto manufacturers and dealers to ensure that EV buyers contact their electric providers immediately upon purchase. At that time, the customer should be put into contact with a dedicated EV-customer service specialist with extensive knowledge of the real-time pricing programs themselves, and of methods for effectively communicating their value to customers. These customer service specialists should also inform customers with special circumstances, such as Ameren's space-heat customers, that a real time price will not benefit them.

Establishing a system of outreach to EV owners at the point of purchase may require Commission oversight and encouragement. If initial, voluntary efforts are unsuccessful, or implementation is delayed, a Commission investigation and ruling may be necessary to protect consumers. CNT Energy and I-Go believe that this falls squarely under the ICC's existing jurisdiction over consumer service standards. However, if needed, legislative amendments requiring this system of outreach could be added to 220 ILCS 5/16-107 regarding real time pricing.

<u>New rate design is needed for discharge of EV battery power, and on-site renewables, to grid</u>

In addition, CNT Energy and I-Go recommend the development of a new rate to encourage capable EVs, and their renewable charging canopies, to discharge power back onto the grid at times when it is needed. As advanced EVs come onto the market, the Commission should consider a 2-way real-time pricing mechanism, which would pay market based rates for electricity from EV sources. Such a rate would increase the supply of electricity at peak times, averting the need for new peaking generation and associated grid upgrade costs. Allowing distributed resources to put excess power back onto the grid at market rates may further incent large EV users, such as fleets and car sharing companies, to invest in renewable charging infrastructure.

IV. What cost causation and rate design modifications will be required to handle distribution upgrades for increased penetration of higher voltage at-home charging? And, what costs, if any should be socialized and why (rationale, benefits, etc.)? Assuming there are costs to be socialized, what are the proper methods for such allocation?

CNT Energy and I-Go see no reason to presume that the rollout of EVs will impose significant costs on the electric system. On the contrary, our electric system's efficiency can be improved by encouraging EV owners to charge when our electric grid is underused, to discharge battery

power onto the grid during high demand, to install renewable charging infrastructure that can feed power into the grid during high demand, and to provide capacity and ancillary services to the electric system.

In addition, if costs do materialize as a result of EV adoption, they would not be so different in character from costs imposed by other appliances, such as hot tubs, clothes dryers and plasma televisions, as to warrant special treatment. We have, as a matter of public policy, chosen to socialize all costs regarding these appliances' effect on the electric system. Electric vehicles do not pose a meaningful exception to this practice. And, as a practical matter, it would be nearly impossible to apply cost-causation in a way that is transparent to EV owners. Current cost-causation practices suffice for EVs.